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Illinois State Board of Education

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James T. Meeks
Chairman

Tony Smith, Ph.D.
State Superintendent of Education

Date: January 14, 2017

MEMORANDUM

TO: The Honorable Bruce Rauner, Governor
The Honorable John J. Cullerton, Senate President
The Honorable Jim Durkin, House Minority Leader
The Honorable Michael J. Madigan, Speaker of the House
The Honorable Christine Radogno, Senate Minority Leader

FROM: Tony Smith, Ph.D.
State Superintendent of Education

SUBJECT: FY 2016 Career and Technical Education Report

The Illinois State Board of Education respectfully submits this report to the Governor, the General Assembly, and institutions of higher education in order to fulfill the requirements of the Illinois School Code 105 ILCS 435/2e, which states that the following duty shall be exercised: a report, in writing, to the Governor annually.

Specifically, this report provides:

1. A statement to the extent to which Career and Technical Education has been established in Illinois.
2. A statement of the existing condition of Career and Technical Education in Illinois.
3. An itemized statement of the amounts of money received from federal and state sources, and of the objects and purposes to which the respective items of these several amounts have been devoted.
4. A statement of suggestions and recommendations with reference to the development of Vocational/Career and Technical Education in the state.
5. A statement of recommendations on programs and policies to overcome sex bias and sex stereotyping in Career and Technical Education programming and an assessment of the state's progress in achieving such goals prepared by the state vocational education sex equity coordinator pursuant to the Federal Vocational Education Law (20 U.S.C. 11 et.seq.).

cc: Tim Anderson, Secretary of the Senate
Timothy Mapes, Clerk of the House
Legislative Research Unit
State Government Report Center

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2016 ILLINOIS CAREER AND TECHNICAL EDUCATION REPORT

This report is being submitted to comply with Illinois School Code 105 ILCS 435/2e, which requires that a written Career and Technical Education (CTE) report shall be issued to the Governor annually.

Delivery of Career and Technical Education

CTE programs in Illinois strengthen students' technical skills, assist in meeting the new Illinois Learning Standards, and close achievement gaps. Illinois districts depend on high-quality CTE programs to prepare students for college and career.

Role of the Illinois State Board of Education

The Illinois State Board of Education (ISBE) provides state leadership, technical assistance, and monitoring for CTE programs. Seven principal consultants provide curriculum guidance for programs, state and federal grant administration, data collection and monitoring, student and teacher association advisement, and intra- and inter-agency liaisons. These activities improve CTE programs, ensuring that students are prepared for college and careers.

ISBE serves as the state agency responsible for the administration, operation, and supervision of Career and Technical Education programs under the Carl D. Perkins Career and Technical Education Act of 2006. ISBE distributes Perkins funds to unit and high school districts as well as Area Career Centers through the Illinois Education for Employment Systems. The Illinois Community College Board (ICCB) distributes Perkins funds to the 39 Illinois community college districts, consisting of 48 community colleges.

Role of the Education for Employment Systems

The Education for Employment (EFE) systems support local districts in the cooperative planning and delivery of high-quality Career and Technical Education to students within their system. The EFE systems promote continuous improvement and accessibility of secondary CTE programs. They also provide accountability for the use of both state and federal CTE funds. In addition, the systems work collaboratively with local postsecondary institutions to create programs that enhance both the technical skills and academic development of students along with articulating postsecondary training programs, employment or both.

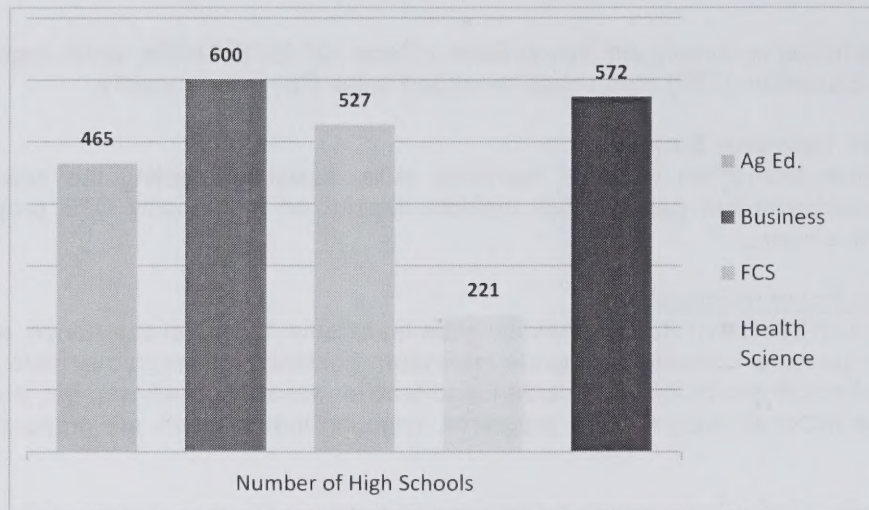
There are 57 EFE systems operating in the state, including three systems organized by the state agencies that serve secondary students as part of their responsibilities: Illinois Department of Juvenile Justice, Illinois Department of Human Services Office of Mental Health Services, and the Office of Rehabilitation Services. All Illinois high schools and Area Career Centers are members of an EFE system.

Role of High School CTE Programs

CTE educators provide instruction for careers in high-wage, high-skill, and high-demand occupations. The secondary CTE instructional programs in Illinois are grouped into five broad areas based on the related content. These content areas are Agricultural Education; Business, Marketing and Computer Education; Family and Consumer Sciences; Health Science Technology; and Technology and Engineering Education.

In total for fiscal year 2016, 670 out of 686 Illinois high schools participated in CTE programs, and 657 high schools had on-site CTE programs. Among those 657 participating schools, 465 high schools provided Agricultural Education; 600 high schools provided Business Education; 527 high schools had programs in Family and Consumer Sciences; 221 schools had Health Science Technology programs; and 572 high schools had Industrial Technology programs.

FY 2016 High School Programs in CTE Areas



FY 2016 High School Programs in CTE Areas

Table 1 (Number of Schools Providing CTE Programs - Excluding Region Programs & Area Vocational Centers) below indicates trend data for FY 2014 – FY 2016 CTE programs.

Table 1: Number of Schools Providing CTE Programs (Excluding Region Programs & Area Vocational Centers)

	FY16		FY15		FY14	
	#	%	#	%	#	%
Agricultural Education	465	19.5	322	16.1	314	15.7
Business, Marketing and Computer Education	600	25.2	579	29.0	579	28.9
Family and Consumer Science	527	22.1	482	24.2	487	24.3
Health Science Technology	221	9.3	125	6.3	129	6.5
Technology and Engineering Education	572	24.0	483	24.3	492	24.6

Districts Served by Multiple CTE Programs

Many high schools offer more than one program. The graph on the next page indicates the number of high schools that offered multiple programs.

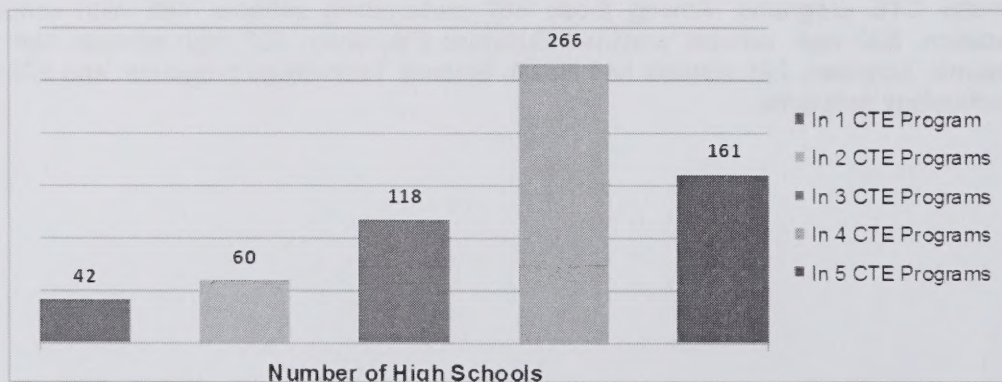


Table 2 (Number of Districts Serving Multiple CTE Programs – Excluding Region Programs & Area Vocational Centers) below indicates the trend data for FY 2014 – FY 2016 districts served by multiple CTE programs.

Table 2: Number of Districts Serving Multiple CTE Programs (Excluding Region Programs & Area Vocational Centers)					
	Served 1 CTE Program Area	Served 2 CTE Program Areas	Served 3 CTE Program Areas	Served 4 CTE Program Areas	Served 5 CTE Program Areas
FY16	42	60	118	266	161
FY15	59	93	234	206	44
FY14	54	98	240	209	39

The Condition of Career and Technical Education in Illinois

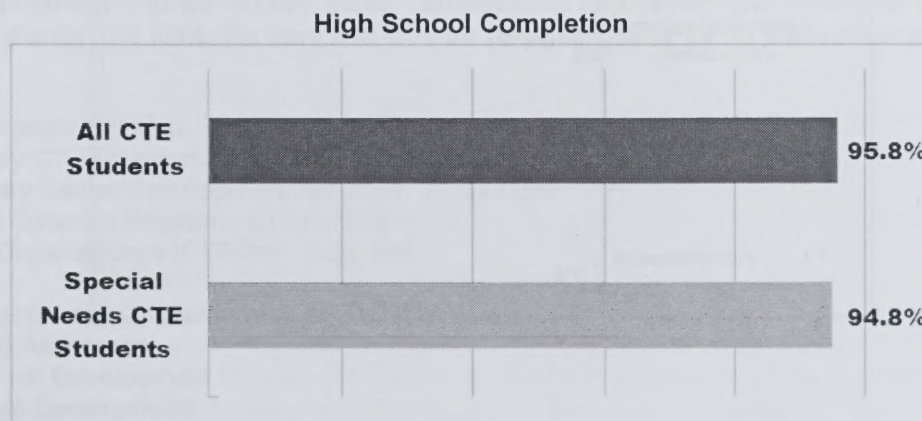
In FY 2016, 45.3 percent of all Illinois students enrolled in public secondary schools (grades 9-12) participated in CTE. This is a 4.1 percent increase from FY 2015. The total enrollment in CTE has increased from 255,544 high school students in FY 2015 to 280,517 high school students in FY 2016. All elementary districts in the 57 EFE systems are provided the opportunity of career information and awareness activities for their students. This is offered to the total population of 1,334,894 elementary students (grades K-8) in public elementary schools. Table 3 (Number of Students Served by CTE) below indicates the number of students served by CTE.

Table 3: Number of Students Served by CTE

Fiscal Year	Total HS Population Grades 9-12	CTE Participants	Percent
FY2016	619,292	280,517	45%
FY2015	619,733	255,544	41%
FY2014	604,277	284,864	47%
FY2013	608,132	241,295	40%
FY2012	614,854	300,983	49%
FY2011	637,705	309,722	49%

Graduation from High School

There were a total of 135,312 graduates in Illinois in FY 2016. As indicated in the graph on the next page, 95.8 percent of the FY 2016 students who completed CTE programs graduated from high school and 94.8 percent of CTE special needs students graduated from high school. This includes students with disabilities, economically disadvantaged students, students-as-parents, students preparing for nontraditional fields, displaced homemakers, and limited English proficient students.



Enrollment in Postsecondary programs

CTE students continue into postsecondary education. More than 63.1 percent of CTE concentrators enrolled in either two-year or four-year institutions, based on National Students Clearinghouse data. A CTE concentrator is a secondary student who has earned three or more credits in a single CTE program area (e.g., health care or business services) or two credits in a single CTE program area, but only in those program areas where two credit sequences at the secondary level are recognized by the state and/or its local eligible recipients.

Federal and State Career and Technical Education Funding Sources

Table 4 (Components of Federal and State Appropriations) below indicates the components of the federal and state appropriations in FY 2016.

Table 4: Components of Federal and State Appropriations

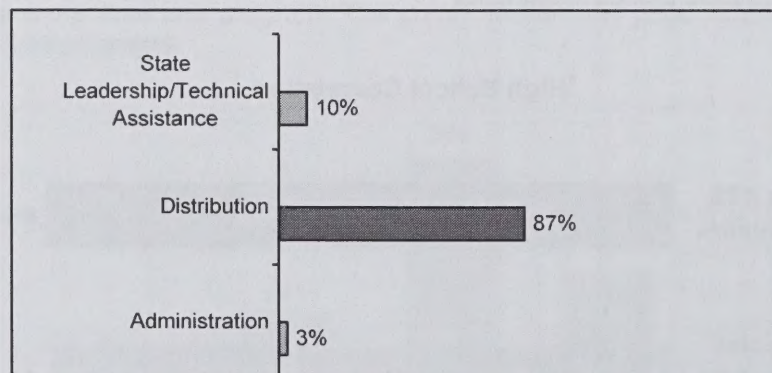
	Appropriation	Administration	Distribution	State Leadership / Technical Assistance
Federal	\$24,210,856	\$ 725,000	\$21,072,530	\$2,413,326
State	\$38,062,100	\$ 928,317	\$37,232,100	\$ 830,000
Total	\$62,272,956	\$1,653,317	\$58,304,630	\$3,243,326

Federal - Perkins Career and Technical Education Grant

The State of Illinois was allocated \$40,365,798 from the federal Carl D. Perkins Career and Technical Education Act (Perkins) to support both K-12 and postsecondary CTE programs. ISBE administers Perkins K-12 CTE programs and ICCB administers Perkins postsecondary CTE programs. The division administrator of the ISBE College and Career Readiness Division is also the state director of Career and Technical Education.

The appropriation to ISBE for secondary federal Career and Technical Education was \$24,210,856. Of that total, \$21,072,530 was distributed by ISBE to EFE systems for the delivery of high-quality local CTE programs. ISBE used \$725,000 for administration and \$2,413,326 for required federal leadership projects. The chart on the next page shows the distribution of these funds on a percentage basis.

FY 2016 CTE Federal Dollars



Illinois Federal Leadership Projects

The *Illinois Association for Career and Technical Education (IACTE)* was funded with \$20,000 to provide professional improvement activities and leadership training for more than 320 secondary and postsecondary CTE teachers. These activities were conducted primarily at the 86th Annual IACTE Conference/Professional Development Institute held February 17-19, 2016, in East Peoria and during the affiliate professional development conferences.

The *University of Illinois – Project Lead the Way* brings early exposure of engineering concepts to students in high school, providing the path to more formal engineering preparation in institutions of higher education or the path to technologically oriented jobs. The project provided \$100,000 for training and professional development for those who teach this core group and engineering-oriented courses in Illinois high schools. In FY 2016, approximately 400 Illinois high school teachers attended training and/or professional development.

The *Illinois Career and Technical Education Special Populations Leadership Project* provides \$275,000 (with \$150,000 of this amount devoted to nontraditional students per Perkins legislation) for statewide professional development and technical assistance to educators for the improvement of instructional services for special populations in CTE with an emphasis on the recruitment and retention of students preparing for a nontraditional career field. Leadership activities included a focus on performance assessment and accountability training, professional development, and technical assistance educator resources. The project website (www.illinoiscte.org) hosts resources for CTE programs and the educational community. Along with the website, Facebook® and Twitter® accounts are used to provide information regarding newly developed and updated resources on gender equity. Education for Employment (EFE) directors, educators, and stakeholders were presented data-driven strategies and activities to help improve recruiting and retaining students in nontraditional occupations based upon Illinois Career and Technical Education trend data. More than 200 educators were directly served through professional development activities in FY 2016, resulting in an impact on more than 20,300 students.

The *Southern Illinois University Curriculum Revitalization Project* provides \$635,000 in professional development opportunities and technical assistance to career and technical educators in Illinois through the development and dissemination of revitalized CTE curriculum in all content areas, curriculum research and planning in each of the approved content areas, and up-to-date technology support to deliver innovative and effective resources. More than 650 educators and stakeholders were served through 57 distinct professional development sessions and presentations. The project website is www.ilcte.org.

State Career and Technical Education Funds

The state appropriation for secondary Career and Technical Education for FY 2016 was \$38,062,100. This amount has remained approximately the same since FY 2004 due to the Maintenance of Effort (MOE) requirement. The Carl D. Perkins Career and Technical Education Act of 2006, Title III, Part A, Section 311 (b), contains a MOE provision that requires equal or greater state expenditures for CTE programs for the second fiscal year preceding the fiscal year for which the determination is made.

Out of the \$38,062,100, ISBE distributes a total of \$37,232,100 to local and regional agencies for the support of secondary CTE programs and elementary career development programs. The remaining funds are used for state leadership grants. The state line item can only be used for grants as no administrative expenditures are allowed.

The state appropriation includes:

- Secondary CTE Programs: \$34,597,142
- Elementary Career Development Program: \$1,343,382
- Regional Coop Ed Program: \$1,065,073
- Student Organizations (CTSOs): \$226,503

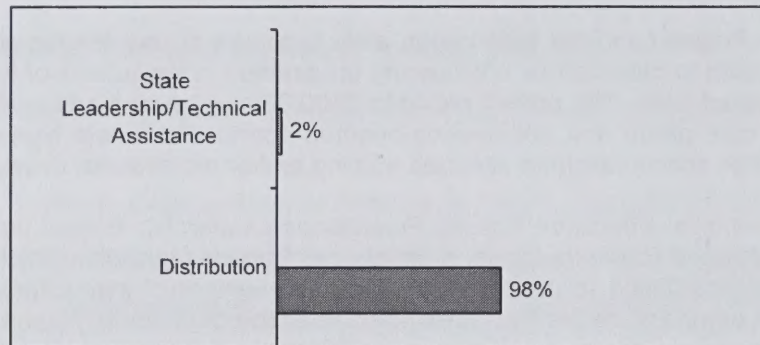
State leadership projects in the amount of \$830,000 include:

- Technical Assistance
- Professional Development
- Curriculum Development

The graph below shows the distribution of these funds on a percentage basis:

- State Leadership/Technical Assistance – 2% (\$830,000)
- Distribution to local and regional agencies – 98% (\$37,232,100)

FY 2016 State CTE Dollars



Illinois State CTE Projects

The *Gender Equity Advisory Committee (GEAC)* functions to advise and consult with ISBE to ensure that all students have equal educational opportunities to pursue high-wage, high-skill occupations leading to economic self-sufficiency (Public Act 91-304). The GEAC met in February and September of 2016. Dedicated professionals shared knowledge and information regarding initiatives in equity work across the state, including collaborations on Science, Technology, Engineering and Mathematics (STEM) equity in the classroom, career exploration events, conferences, and trainings. The committee received CTE state trend data and reported on strategies for improving CTE participation of nontraditional and other special populations defined by Perkins legislation.

The *Illinois State University – Technical Assistance for Rigorous Academic and Career Technical Education Project* assists ISBE in implementing the High Schools That Work (HSTW) whole-school reform model. Major goals of the HSTW initiative include:

- Raise the mathematics, science, communications, problem-solving, and technical achievement of more students to the national average and above;
- Blend the essential content of traditional college-preparatory studies – mathematics, science, and language arts – with high-quality career and technical studies by creating conditions that support school leaders, teachers, and counselors to carry out key practices; and
- Advance state and local policies and leadership initiatives necessary to sustain a continuous school improvement effort for both academic and career/technical studies.

This project used \$330,000 in funds to coordinate the delivery of the Connections Conference, a Mathematics Design Collaborative workshop that included school visits, a summer mid-state workshop, and a state meeting at the national HSTW Staff Development Conference. More than 725 educators participated in these activities.

The Connections Conference was held at the Pheasant Run Resort in St. Charles on March 8-9, 2016. The conference focused on new and innovative practices in both core academic and CTE content areas. It featured administrators, teachers, counselors, and other educators from Illinois sharing innovative programs and strategies that have been successful in Illinois schools. A special emphasis was placed on implementing the HSTW model. Approximately 700 educators were in attendance from mainly middle/junior high, secondary, and postsecondary schools. Teachers accounted for 68 percent, administrators 15 percent, counselors 12 percent, and other educators 5 percent of the conference attendance. Participant evaluations revealed that of the 96 sessions offered, all received a 3.0 – Good score or better (out of 4.0 – Excellent). The overall conference evaluation data showed an average score of 3.49 out of 4 – Excellent.

Career and Technical Student Organizations (CTSO) are co-curricular entities that provide secondary students with competitive-based activities that expand classroom instruction to strengthen academic and technical skills. These competitive events develop leadership qualities in students. Students can also gain industry-related experience. In addition, CTSOs provide state and national conferences, which foster student-employer networking, workplace, and leadership skill development. In FY 2016, 36,562 students were members of a CTSO. Table 5 (CTSO Funding Distribution) indicates the grant distribution funding for the state-approved CTSOs.

Table 5: CTSO Funding Distribution

Illinois Association of DECA (DECA)	\$20,119
Illinois Association of Family Career and Community Leaders Association (FCCLA)	\$22,786
Business Professionals of America Illinois Association (BPA)	\$17,306
Illinois Association of Skills USA	\$18,649
Technology Student Association (TSA)	\$16,321
Illinois Association of Health Occupations Students of America (HOSA)	\$17,331
Illinois Future Business Leaders of America (FBLA)	\$21,224
Illinois Association FFA (FFA)	\$45,911
Total	\$179,647

The *Illinois Coordinating Council for Career and Technical Student Organizations (ICCCTSO)* is made up of the state advisers, executive directors, and presidents of the eight secondary CTSOs that are listed above. The ICCCTSO received \$46,856 to coordinate the activities of the individual career and technical student organizations. A three-day leadership conference is held in Springfield. The leadership conference provided training for CTSO state officers and advisers. It also provided direction in various Career and Technical Education initiatives.

Pilot Regional Safe Schools Cooperative Education Program (RSSCEP) provides annual grant awards, with a base of \$35,000 for each Regional Office of Education (ROE), plus Americans with Disability ACT (ADA) and/or low-income count. Subpart K (254.110-254.1198) of the Illinois Administrative Code (Title 23) administrative rules governing Vocational Education authorizes the Illinois State Board of Education to provide grants to school districts to develop career-related classroom instruction and cooperative work experience for students who are currently enrolled as full-time students in the regular school program but are at risk of dropping out of school. The purpose of the RSSCEP is to provide alternative cooperative education for suspended or expelled youth due to gross misconduct who are 16 years or older and are administratively transferred to a Regional Safe School Program. The program is designed to motivate and encourage students to complete high school while enabling them to make a successful transition to postsecondary education, employment, or other career advancement opportunities. Twenty-six ROEs applied for the RSSCEP grants in FY 2016.

Future developments in Career and Technical Education

In 2012, the Illinois federal Race to the Top Grant (RTTT) launched a new STEM innovative education initiative – STEM Learning Exchanges. The STEM Learning Exchanges promote and support the P-20 education pipeline for Illinois STEM industries. Their emphasis on active employer engagement in P-20 education has created new opportunities for Illinois schools and districts.

In FY 2016, \$331,700 in RTTT funds were spent to help further develop the STEM Learning Exchanges for implementation. High schools from 21 RTTT districts are participating in the development of two Programs of Study. The following is the break out of how many Programs of Study are currently being worked on with each STEM Learning Exchange: Health Science (14); Manufacturing (6); Agriculture, Food & Natural Resources (11); Information Technology (6); and Research and Development (6).

STEM Implementation Learning Exchanges
1. Agriculture, Food and Natural Resources
2. Information Technology
3. Research and Development
4. Health Science

The STEM Learning Exchanges are planning or implementing these functions for their areas:

1. Provide e-learning curriculum resources, including online courses, assessments and feedback systems, reference materials, databases, and software tools.
2. Expand access to classroom and laboratory space, equipment, and related educational resources necessary to support programs of study through regional partnerships and other strategies.
3. Support student organizations and their major activities, including conferences; internships and professional networking experiences; competitions; and community projects that build leadership, communication, and interpersonal skills and provide professional and peer support networks.
4. Provide internships and other work-based learning opportunities that connect students with adult mentors.
5. Sponsor challenges and project management resources for students to work in collaborative teams addressing real-world interdisciplinary problems.
6. Provide professional development resources for teachers and school administrators integrated and aligned across middle school, high school, and community college instruction, including STEM externships, support for web-based networks, and integrated professional development for academic and CTE instructors.
7. Provide career development and outreach resources to expand awareness of STEM-related programs and careers to K-12 students.
8. Provide tools and resources to assist students and schools with implementing personalized education plans and transitions to postsecondary academic and training programs, including establishing course articulation and dual credit opportunities.
9. Review performance of STEM Programs of Study through assessments and work with school partners to continuously improve performance.

The STEM Implementation Learning Exchanges continue to develop the nine functions and are in different stages of implementation. The Learning Exchanges will continue to develop these functions during the next fiscal year as well as create a sustainability plan for when RTTT funds sunsets.

Recommendations and Activities for Fiscal Year 2017

Continue Current Innovative Projects including:

Project Lead The Way

Project Lead The Way (PLTW) is funded through federal Perkins Leadership dollars. It is one of the leading national STEM curriculums in the country. In Illinois, PLTW Pathway to Engineering has expanded to 153 engineering/technology secondary programs since its beginning in 2003. The Pathway to Engineering curriculum provides a specific focus on technology and engineering concepts combined with the application of math and science. This allows students to follow a pathway to formal postsecondary preparation in engineering and technology-oriented jobs. The EFE systems are key partners in this effort in providing cooperative efforts to offer courses at various locations. Since 2003, more than 660 Illinois teachers have received substantial professional development to support implementation of the Pathway to Engineering curriculum. Illinois PLTW Pathway to Engineering has enrolled more than 14,000 students at the high school level. An Illinois PLTW State Leadership Team continues to meet to carry out a strategic plan for continued growth. It is anticipated that 10 new programs will be implemented in FY 2018.

High Schools That Work

High Schools That Work (HSTW) is the nation's largest school improvement initiative for high school leaders and teachers. More than 1,200 HSTW sites in 30 states and the District of Columbia currently use the framework. New HSTW research has redesigned the framework by adding High School Design Principles and Critical Features of Career Pathways to the existing Conditions for Accelerating Student Performance and Key Practices vital to comprehensive school reform. The HSTW Redesign Framework focuses on providing an education that connects the classroom with the workplace and prepares them to succeed in postsecondary education and 21st century careers. The mission of HSTW is to create a culture of high expectations that motivates students to make the effort to succeed in school. Schools attended and participated in statewide conferences where HSTW staff presented on best practices and the potential for local implementation of HSTW.

Career Pathways/Programs of Study

Career Clusters are groups of occupations and industries based on common knowledge and skills. Career Pathways are systemic frameworks organized around Career Clusters for transforming educational institutions by proactively providing a multi-component organizing tool for schools and students to work toward a specific career. Pathways comprise of more specific Programs of Study. Programs of Study are sequences of courses and applied learning experiences that include both academic and CTE content and where students pursue a pathway of coursework. POS also includes articulation and dual credit opportunities that lead to postsecondary degrees and industry-recognized certifications and/or licenses as well as work-based learning and project based experiences and connections to supporting activities in approved career and technical student organizations and professional networks.

Curriculum Revitalization

The Curriculum Revitalization Project partners with ISBE, the Center for Workforce Development, Facilitating Coordination in Agriculture Education, and Center for Agricultural and Environmental Research and Training Inc. to develop, update, and disseminate revitalized online CTE curriculum in all content areas. Each year the goal is to develop more than 200 online CTE curriculum lessons and supplemental materials incorporating the new Illinois Learning Standards for math, English language arts, and science. For FY 2016, 217 new CTE lessons were developed for CTE educators. Business and industry professionals and CTE educators contribute to the creation of the lessons. Professional development is also provided to secondary teachers to improve their current curriculum and utilize innovative resources for classroom instruction delivery.

STEM Learning Exchanges

The STEM Learning Exchanges are public-private partnerships that include representatives from educational institutions, student organizations, research centers, business and industry leaders, labor and professional organizations, state government agencies, and community partners statewide. The STEM Learning Exchanges are also resource repositories that will support the Programs of Study Model by providing opportunities for learners. The STEM Learning Exchanges will provide key resources and tools to local education agencies implementing STEM Programs of Study to promote learning and career development for students.

